



# UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE

United States Patent and Trademark Office

Address: COMMISSIONER FOR PATENTS

P.O. Box 1450

Alexandria, Virginia 22313-1450

www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/582,993	06/12/2006	Wilhelm Kraemer	MTS127150	6991
26389 7590 04/30/2008 CHRISTENSEN, O'CONNOR, JOHNSON, KINDNESS, PLLC 1420 FIFTH AVENUE SUITE 2800 SEATTLE, WA 98101-2347				
EXAMINER				
POOS, JOHN W				
ART UNIT		PAPER NUMBER		
2816				
MAIL DATE		DELIVERY MODE		
04/30/2008		PAPER		

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

### Office Action Summary

**Application No.**

10/582,993

**Applicant(s)**

KRAEMER, WILHELM

**Examiner**

JOHN W. POOS

**Art Unit**

2816

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --  
**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 04 March 2008.  
2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.  
3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 5-8 is/are pending in the application.  
4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.  
5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.  
6) ☒ Claim(s) 5-8 is/are rejected.  
7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.  
8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.  
10) ☒ The drawing(s) filed on 12 June 2006 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).  
11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).  
a) ☒ All b) ☐ Some \* c) ☐ None of:  
1. ☒ Certified copies of the priority documents have been received.  
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.  
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- 1) ☐ Notice of References Cited (PTO-892)  
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)  
3) ☐ Information Disclosure Statement(s) (PTO/CD/CD)  
Paper No(s)/Mail Date \_\_\_\_\_

- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date \_\_\_\_\_  
5) ☐ Notice of Informal Patent Application  
6) ☐ Other: \_\_\_\_\_

**DETAILED ACTION**

***Claim Rejections - 35 USC § 102***

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

2. Claims 5 and 7 are rejected under 35 U.S.C. 102(b) as being anticipated by Otaka (US 5,796,286).

**In regard to Claim 5 (as taught in Figure 2):**

An electronic high frequency switch with a field effect transistor (Q11) as the switching element, whose switching condition is controlled via the gate voltage fed from a gate voltage source (Vdd) and is controlled by means of a control circuit between a switching on value and switching off value (Vdd and Gnd), characterized in that the size of the gate voltage fed from the gate voltage source is selectable by a changeover device (S11) depending on the desired linearity or switching speed.

**In regard to Claim 7 (as taught in Figure 2):**

An attenuator with a plurality of electronic high frequency switches (Q11, Q12) according to claim 5 or 6, characterized in that the size of the gate voltage of at least some of said high frequency switches are switchable between at least two values (I11, Gnd, I12, Gnd).

***Claim Rejections - 35 USC § 103***

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

4. The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459

(1966), that are applied for establishing a background for determining obviousness under 35

U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

5. Claims 6-8 are rejected under 35 U.S.C. 103(a) as being unpatentable over Otaka (US

5,796,286), in view of Barta (US 4,975,604).

**In regard to Claim 6:**

All of the claim limitations are discussed with respect to Claim 5 above, except for a correction device in which, for the different gate voltage values, corresponding different correction values for additional high frequency properties of said high frequency switch (transmission or reflection) are stored which, depending on the gate voltage chosen, are used for correcting these additional high frequency properties of the high frequency switch.

Barta (604) teaches a correction device (Figure 2: 12) in which, for the different gate voltage values, corresponding different correction values for additional high frequency properties of the high frequency switch (transmission or reflection) are stored which, depending on the gate voltage chosen, are used for correcting these additional high frequency properties of the high frequency switch (Column 5: lines 40-53).

Therefore it would have been obvious to one skilled in the art at the time of the invention to use the correction device taught by Barta (604) with the attenuator taught by Otaka (286) in order to provide low return-loss characteristics for various attenuations over a broad microwave range (Column 2: lines 20-22).

**In regard to Claim 7:**

All of the claim limitations are discussed with respect to claims 5 and 6 above, and Otaka (286) further teaches an attenuator with a plurality of electronic high frequency switches (Figure 2: Q11, Q12) according to claim 5 or 6, characterized in that the size of the gate voltage of at least some of aid high frequency switches are switchable between at least two values (I11, Gnd, I12, Gnd).

**In regard to Claim 8:**

All of the claim limitations are discussed with respect to claims 5-7, and 5, 7 above, except for a correction device in which, depending on the frequency of the high frequency signal fed to the attenuator, correction values for compensating for the frequency-dependent junction loss of the electronic high frequency switch are stored, characterized in that in the correction device, different frequency response correction values are stored for the different gate voltage values of the high frequency switches and that the changeover device for the gate voltage is coupled to this correction device such that, depending on the selected size of the gate voltage, the respective associated frequency response correction values for controlling the attenuation member connected on the line side are used.

Barta (604) teaches a correction device (Figure 2: 12) in which, depending on the frequency of the high frequency signal fed to the attenuator, correction values for compensating

for the frequency-dependent junction loss of the electronic high frequency switch are stored, characterized in that in the correction device, different frequency response correction values are stored for the different gate voltage values of the high frequency switches and that the changeover device for the gate voltage is coupled to this correction device such that, depending on the selected size of the gate voltage, the respective associated frequency response correction values for controlling the attenuation member connected on the line side are used (Column 5: lines 40-53).

Therefore it would have been obvious to one skilled in the art at the time of the invention to use the correction device taught by Barta (604) with the attenuator taught by Otaka (286) in order to provide low return-loss characteristics for various attenuations over a broad microwave range (Column 2: lines 20-22).

### ***Response to Arguments***

6. Applicant's arguments filed 4 March 2008 have been fully considered but they are not persuasive.

#### **In regard to Claims 5 and 7:**

Applicant's argument is Otaka (286) fails to teach a changeover device.

This argument is not persuasive because switch S11 is a changeover device as it switches or changes from one state to another, i.e. the two states or values being Vdd via I11 and Gnd. The switch S11 is also responsive to a control signal (Otaka Column 3: lines 17-19), thus allowing user control of the switch, i.e. "...desired linearity or switching speed."

#### **In regard to Claims 6-8:**

Applicant's argument is that Claims 6-8 depend from Claim 5 (see above) and that Barta (604) does not show a correction device as required by Claim 6.

This argument is not persuasive because Barta (604) discloses a reference cell with an attenuator control signal (Figure 2:12) and that an object of the preferred embodiment is to internally optimize input and output return loss over a 1-10 GHz bandwidth (Column 3: lines 7-8), therefore correcting and optimizing high frequency properties of the circuit/switch.

Claims 7-8 stand rejected as arguments were not provided in regard to these claims.

#### ***Conclusion***

7. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

#### ***Communication***

8. Any inquiry concerning this communication or earlier communications from the examiner should be directed to JOHN W. POOS whose telephone number is (571)270-5077. The examiner can normally be reached on M-F (alternating Fridays off), E.S.T.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Drew Richards can be reached on 571-272-1736. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Kenneth B. Wells/  
Primary Examiner  
Art Unit 2816

/J. W. P./  
Examiner, Art Unit 2816